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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,581	05/24/2001	David W. Beddome	90099012	2137

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EXAMINER

DUONG, THO V

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,581

Applicant(s)

BEDDOME ET AL.

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-52 is/are pending in the application.
- 4a) Of the above claim(s) 29,33,38-40 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27,28,30-32,34-37,41-48 and 50-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 29,33,38-40 and 49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election of species of figures 3-6 and subspecies of figure 10a was made **without** traverse in Paper No. 6.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed subject matter of "the first mount is adjustable to allow the tube to expand separately from the load bearing member" renders the scope of the claim indefinite since the disclosure does not support this subject matter. It appears in figure 5 that the first mount including components (192,196) is rigidly mounted on the tube and the bearing. These components can only move with the contraction of the tube or the bearing.

Claim 52 recites the limitation "the second mount" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 27, 28, 30, 31, 34, 35, 36, 37, 41, 42, 43, 45, 46, 47, 50, 51 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishishita (US 5,551,506). Nishishita discloses (figures 2, 7a, 7b and 8) that a plate heat exchanger (1) comprising a core having heat exchange portion (4) with layers of heat exchanging member; a tube (30) is adjacent and positioned through at least one of the heat exchange member (4) to increase stiffness of the core; the tube comprises a length and a core end; a load bearing member (6a) positioned adjacent the core; a first mount (A) positioned between the tube and the load bearing member to restrain the tube and to transfer loads from tube to the bearing member (6a); a manifold (6b); and a second mount (B) positioned between the tube and the core wherein the second mount comprises a cavity (27) defined within the core to allow the core end of the tube to slide into. It has been held that the recitation that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claims 27, 28, 30, 32, 34, 41, 42, 43, 45, 46, 47 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Bridgnell (US 4,291,752). Bridgnell discloses (figures 1-5 and column 5, lines 29-35) a plate heat exchanger comprising a core having heat exchange portion (10) with layers of heat exchanging member; a tube (24) is adjacent and positioned through at least one of the heat exchange member (10) to increase stiffness of the core; the tube comprises a length and a core end; a load bearing member (28) positioned adjacent the core; a first mount (32, 38) positioned between the tube and the load bearing member to restrain the tube and to transfer

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loads from tube to the bearing member (28); and a manifold (12) for passing a fluid from and to the core. Bridgnell further discloses (figure 5) that the first mount comprises a limiter (32,36) mounted to the tube (24); and a channel formed between T-clip (38) and the load bearing member (28) wherein the limiter (32) is received by the channel. It has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishishita in view of Ryoichi Hoshino (JP 406159969 A). Nishishita substantially discloses all of applicant's claimed invention as discussed above except for the limitation of that the tube is permeable. Hoshino discloses (figure 1) a plate heat exchanger that has several layers of heat exchanging members (1) and tubes (17), which defines a flow passage therewithin, extending into the heat exchanger core wherein the tube is permeable at holes (20) to allow a flow communication between the tube and layers of the heat exchanging member. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Hoshino's teaching in

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the Nishishita's heat exchanger to allow a flow communication between the tube and layers of the heat exchanger member.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgnell in view of Ryoichi Hoshino (JP 406159969 A). Bridgnell substantially discloses all of applicant's claimed invention as discussed above except for the limitation of that the tube is permeable. Hoshino discloses (figure 1) a plate heat exchanger that has several layers of heat exchanging members (1) and tubes (17), which defines a flow passage therewithin, extending into the heat exchanger core wherein the tube is permeable at holes (20) to allow a flow communication between the tube and layers of the heat exchanging member. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Hoshino's teaching in the Bridgnell's heat exchanger to allow a flow communication between the tube and layers of the heat exchanger member.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishishita (EP 625686) discloses a laminated heat exchanger has elements bonded together with tube inserted into the heat exchanger core.

Sonoda (US 4,274,482) discloses a laminated evaporator that has tube extending into the heat exchanger core.

Yoshiyuki Yamauchi (JP 404309766A) discloses a heat exchanger that has a permeable tube manifold extending through the heat exchange core, a small gap between the tube and the core is for thermal expansion.

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BL Cars (EP 0013800) discloses a heat exchanger matrix assembly using feed tube to hold fins and tubes in position.

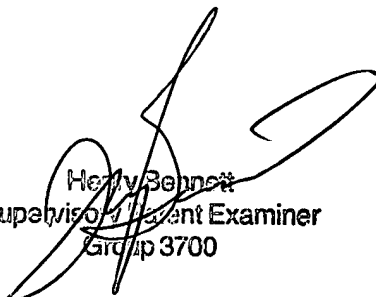
Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

Tho Duong

September 6, 2002


Henry Bennet
Supervisor / Patent Examiner
Group 3700